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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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020350 MM92/0313  
TOWNSEND AND TOWNSEND AND CREW  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO CA 94111-3834

EXAMINER

GARCIA, J

ART UNIT

PAPER NUMBER

2823

DATE MAILED: 03/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
**09/216,078**

Applicant(s)  
**Hsinchu et al**

Examiner  
**Joannie Adelle Garcia**

Group Art Unit  
**2823**



☒ Responsive to communication(s) filed on 12/18/00

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

- ☒ Claim(s) 2, 4-16, and 20-31 is/are pending in the application.
- Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 2, 4-16, and 20-31 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- ☐ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☐ Interview Summary, PTO-413
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Art Unit: 2823

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 6, 7, 20-23, and 27-29, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 6, line 13, and claim 29, line 2, replace “concentrations” with --dosage--.

In claim 20, line 10, claim 21, line 5, and claim 27, line 9, and claim 29, line 2, replace “concentration” with --dosage--, respectively.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6, 7, 20-23, and 27-29, are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no description in the specification as originally filed of the concentration (dosage) recited in claim 6, last line, for example. Support is only seen for 10exp14/cm<sup>2</sup> to 10exp15 /cm<sup>2</sup> on page 8, last line.

Art Unit: 2823

Claims 2, 4, 5, 8, and 9, are rejected under 35 U.S.C. 102(e) as being anticipated by Grider et al.

The rejection is maintained as stated in the Office Action mailed 9-13-00, and as stated below.

Applicant argues that Grider et al does not disclose halogen-containing impurities introduced directly into the exposed surface of the substrate. However, Grider et al teaches removal of the dummy gate oxide 34 prior to the introduction of the halogen species (Column 3, lines 23-26).

Applicant argues that Grider et al does not disclose two regions directly adjacent one another. However, Grider et al teaches the two regions adjacent one another (See Figure 4, Column 1, lines 30-38, and Column 2, lines 30-36).

Applicant argues that Grider et al teaches away from applicants' invention. However, it would be obvious to combine to enable formation of gate oxide with different thicknesses.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grider et al as applied to claims 2-9, and 20-28 above, and further in view of the following comment.

The rejection is maintained as stated in the Office Action mailed 9-13-00.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grider et al as applied to claims 2-9, and 20-28 above, and further in view of the following comments.

Art Unit: 2823

The rejection is maintained as stated in the Office Action mailed 9-13-00.

Claims 6, 7, 20-31, are rejected under 35 U.S.C. 103(a) as being unpatentable over Grider et al as applied to claims 2, 4, 5, 8, and 9 above, and further in view of the following comment.

With respect to the concentrations dosages recited, there is overlap between the disclosed dosages and the recited second concentrations. It would have been within the scope of one of ordinary skill in the art to employ a dosage higher than  $10^{14}$  /cm with the expectation that the disclosed concomitant and disadvantages would be obtained, namely gate oxide degradation.

Applicant argues that Grider et al fails to disclose the introduction of halogen-containing impurities at two different concentrations into two different regions. However, Grider et al teaches that a second introduction of halogen species may be performed in a different region to achieve an even greater thickness differential between the thin and thick gate oxides (Column 4, lines 19-25).

With respect to claims 20, 24, and 30, it would be a matter of routine optimization within the teachings of Grider et al to determine a suitable implant energy and a suitable time, temperature and pressure, to achieve the halogen concentration regions formation step, and the oxide layers formation step, respectively.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


Art Unit: 2823

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956. **See MPEP 203.08.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner J. Garcia whose telephone number is (703) 306-5733. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax number for this group is (703) 308-7722 (and 7724), and (703) 305-3431 (and 3432). MPEP 502.01 contains instructions regarding procedures used in submitting responses by facsimile transmission.

  
George Fourson  
Primary Examiner  
Art Unit 2823



JAG  
March 12, 2001